

[home](#)[searching ▾](#)[patents ▾](#)[documents ▾](#)[toc journal watch ▾](#)**Format Examples****US Patent**

US6024053 or 6024053

US Design Patent

D0318249

US Plant Patents

PP8901

US Reissue

RE35312

US SIR

H1523

US Patent Applications

20020012233

World Patents

WO04001234 or WO2004012345

European

EP1067252

Great Britain

GB2018332

German

DE29980239

Nerac Document Number (NDN)

certain NDN numbers can be used for patents

[view examples](#)
 6.0 recommended
 Win98SE/2000/XP

 Patent Ordering
**Enter Patent Type and Number:** optional reference note


☐ Add patent to cart automatically. If you uncheck this box then you must *click on* Publication number and view abstract to Add to Cart.
47 Patent(s) in Cart**Patent Abstract**

EPA 2002-06-26 1138902/EP-A1 **Method and apparatus for timed measurement of the voltage across a device in the charging circuit of a piezoelectric element**

INVENTOR- Hedenetz, Andreas Bismarckstrasse 40
73770 Denkendorf DE

INVENTOR- Barnickel, Kai Friedrich-Zundel-Strasse 48
70619 Stuttgart DE

INVENTOR- Newald, Josef Weilimdorferstrasse 93
70469 Stuttgart DE

INVENTOR- Schulz, Udo Hexenpfad 7 71665
Vaihingen DE

PATENT ASSIGNEE- Robert Bosch GmbH 70469
Stuttgart DE **DESIGNATED COUNTRIES-** DE, FR, GB,
IT, SE

PATENT APPLICATION NUMBER- 00106961.6**DATE FILED-** 2000-04-01**PUBLICATION NUMBER-** 01138902/EP-A1**PUBLICATION DATE-** 2001-10-04

FIRM- Dreiss, Fuhlendorf, Steimle & Becker, Patentanwälte
Postfach 10 37 62, 70032 Stuttgart, DE

INTERNATIONAL PATENT CLASS- F02D04120

PUBLICATION- 2001-10-04, A1, Published application with
search report

FILING LANGUAGE- ENG**PROCEDURE LANGUAGE-** ENG**DESIGNATED COUNTRY-** DE, FR, GB, IT, SE**LANGUAGE-** ENG NDN- 113-0145-4022-4

A method and apparatus for timed measurement of a

voltage across a device in a charging circuit of piezoelectric element. The voltage across the device is sensed and read at a predefined time in synchronization with an injection event of the at least one piezoelectric actuator. The device may be the piezoelectric element or a buffer capacitor.

EXEMPLARY CLAIMS- A method for timed measurement of a voltage across a device in a charging circuit of at least one piezoelectric element;; characterized in that; the voltage across the device is sensed; and; the sensed voltage is read at a predefined time in synchronization with an injection event of the at least one piezoelectric element.; The method as recited in claim 1;; the device is the at least one piezoelectric element.; The method as recited in claim 1;; the device is a buffer capacitor.; The method as recited in claim 1;; the predefined time is a predefined time offset before or after a respective charging or discharging action of the injection event.; The method as recited in claim 4;; the respective charging or discharging action is started in response to a respective strobe pulse, the predefined time offset being in relation to the respective strobe pulse.; The method as recited in claim 5;; the predefined time is coincident with the respective strobe pulse, the respective charging or discharging action being started a second predefined time offset following the respective strobe pulse.; The method as recited in claims 1 or 3;; characterized in thatthe read voltage is used for at least one of;; determining an energy loss or power dissipation factor of the at least one piezoelectric actuator;; determining a capacitance of the at least one piezoelectric actuator;; diagnosing a capacitance of the buffer capacitor and/or associated circuitry; and; regulating a voltage gradient across the device.; The method as recited in one of the claims 1 through 6;; the read voltage is used to correct a charging or discharging of the at least one piezoelectric element, in particular for aging phenomena and/or temperature effects.; The method as recited in one of the claims 1 through 6;; the read voltage is used for a diagnosis of at least one of the at least one piezoelectric element and/or at least one injector associated with the at least one piezoelectric element.

NO-DESCRIPTORS

 **proceed to checkout**

Nerac, Inc. One Technology Drive . Tolland, CT
Phone (860) 872-7000 Fax (860) 875-1749

©1995-2003 All Rights Reserved . [Privacy Statement](#) . [Report a Problem](#)